Factoring Some Binomials

1) DIFFERENCE OF SQUARES

Pattern: $a^2 - b^2$

$$a^2 - b^2 = (a+b)(a-b)$$

(sum of square roots)(difference of square roots.)

2) SUM OF CUBES

Pattern: $a^3 + b^3$

$$x^3 + y^3 = (x+y)(x^2 - xy + y^2)$$

(Sum of cube roots)((1st)^2 – (product of roots)+(2nd)^2)

Use SOAP to remember signs.

3) DIFFERENCE OF CUBES

Pattern: $x^3 - b^3$

$$x^3 - y^3 = (x-y)(x^2 + xy + y^2)$$

(Difference of cube roots)((1st)^2 + (product of roots)+(2nd)^2)

Use SOAP to remember signs.